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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/684,680	10/15/2003	Takahito Kouou	58647-170	3399

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McDERMOTT, WILL & EMERY
600 13th Street, N.W.
Washington, DC 20005-3096

EXAMINER

HOEKSTRA, JEFFREY GERBEN

ART UNIT	PAPER NUMBER
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3736

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	12/20/2006	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

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Office Action Summary	Application No. 10/684,680	Applicant(s) KOUOU ET AL.	
	Examiner Jeffrey G. Hoekstra	Art Unit 3736	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 November 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453-O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) ☒ Notice of References Cited (PTO-892) | 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date: _____ |
| 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) ☐ Notice of Informal Patent Application |
| 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date: _____ | 6) ☐ Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 11/28/2006 has been entered.

Notice of Amendment

2. In response to the amendment filed on 11/28/2006, amended claim(s) 2 and 3 is/are acknowledged. The following new and reiterated grounds of rejection are set forth:

Specification

3. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-4 are rejected under 35 U.S.C. 102(b) as being anticipated by Richardson et al (US 6,185,451). Richardson et al discloses a muscle function assessment apparatus (1) as broadly as *structurally* claimed, comprising:

- an input unit (8) for inputting individual physical data;
- a bioelectric impedance measuring unit (3);
- a processing/calculation unit (5) for calculating;
- a load setting unit (18) imposes a load based on calculated maximum voluntary contraction;
- a muscle data measuring unit (column 3 line 51 - column 4 line 9, column 5 lines 2-5 and lines 21-32) for measuring a subject's mechanomyographic activity (the mechanical vibrations arising from muscular contraction) that may receive data from vibrational measuring apparatus (12 and 20); and
- a processing/determining unit (5) measuring the mechanomyogram under load conditions, capable of determining the muscular force utilized by analyzing amplitudes and average frequency, and capable of determining proportions of types of muscles measured in portions of a subject.

6. For claim 4, Richardson et al discloses the processing/determining unit differentiating between slow-twitch or deep muscles and fast-twitch or superficial muscle fibers (column 3 line 23 – column 4 line 5).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

9. Claims 5-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Richardson et al in view of Moss (US 4,688,581). For claim 5, Richardson et al discloses the claimed muscle measuring apparatus except for the determining unit differentiating between SO (slow-twitch), FOG (fast-twitch) and FG (fast-twitch) fibers based on biochemical metabolic characteristics. Moss discloses an apparatus for noninvasive in vivo differentiation and evaluation of both slow- and fast- twitch muscle fibers based on electrical potentials arising from differences in biochemical metabolic fluxes (column 1 line 65 – column 2 line 18). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system as

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taught by Richardson et al, with Moss for the purpose of increasing the efficacy of a muscle measuring apparatus for providing an increased quality of data.

10. For claim 6, Richardson et al discloses the claimed muscle measuring apparatus except for explicitly disclosing a step-wise loading stimulus. Moss discloses a muscle fiber measuring apparatus that adjusts the loading stimulus in a step-wise manner (column 2 lines 64-67). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system as taught by Richardson et al, with Moss for the purpose of increasing the efficacy of a muscle measuring apparatus for providing an increased quality of data.

11. For claim 7, Richardson et al discloses the claimed muscle measuring apparatus including muscular strength detecting unit (9), display unit (6) displaying the difference in muscular strength, and processing/control unit (5) calculating the difference between the loaded condition and muscular contraction.

12. For claim 8, Richardson et al discloses the subsequent use of the muscle measuring apparatus to determine and track the occurrence of muscular improvement or fatigue by comparing equivalent data sets taken at different times (column 2 lines 45-48).

Response to Arguments

13. Applicant's arguments filed 11/28/2006 have been fully considered but they are not persuasive. Applicant argues (a) Richardson et al does not disclose or suggest a determining unit that "measures a mechanomyogram of the subject when the subject does exercise with respect to the load and determines the proportions of the types of

muscles in the measured portions based on an amplitude and a frequency derived from the data of the measured mechanomyogram, in which the amplitude decreases while the frequency increased when the subject does exercise with respect to the load” and (b) Richardson et al does not disclose or suggest a muscle measuring device “for determining proportions of types of muscles in measured portions of a subject”.

14. In response to applicant’s argument that (a) Richardson et al does not disclose or suggest a determining unit that “measures a mechanomyogram of the subject when the subject does exercise with respect to the load and determines the proportions of the types of muscles in the measured portions based on an amplitude and a frequency derived from the data of the measured mechanomyogram, in which the amplitude decreases while the frequency increased when the subject does exercise with respect to the load”, the determination of patentability in a product-by-process claim is based on the product itself, even though the claim may be limited and defined by the process. That is, the product in such a claim is unpatentable if it is the same as or obvious from the product of the prior art, even if the prior product was made by a different process. In re Thorpe, 777 F.2d 695, 697, 227 USPQ 964, 966 (Fed. Cir. 1985). A product-by-process limitation adds no patentable distinction to the claim, and is unpatentable if the claimed product is the same as a product of the prior art.

15. Moreover in response to applicant's argument that (a) Richardson et al does not disclose or suggest a determining unit that “measures a mechanomyogram of the subject when the subject does exercise with respect to the load and determines the proportions of the types of muscles in the measured portions based on an amplitude

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and a frequency derived from the data of the measured mechanomyogram, in which the amplitude decreases while the frequency increased when the subject does exercise with respect to the load”, a recitation of the intended use of the claimed invention must result in a *structural* difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim.

16. In response to applicant's argument that (b) Richardson et al does not disclose or suggest a muscle measuring device “for determining proportions of types of muscles in measured portions of a subject”, a recitation of the intended use of the claimed invention must result in a *structural* difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim.

Conclusion

17. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Nakada et al (US 2004/0019290 A1), Miyata et al (US 6,026,321), Church (US 5,474,083), and Remes et al (US 5,361,775) disclose various muscle measuring devices and methods of use thereof comprising amplitude and frequency analysis based on measurement data.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffrey G. Hoekstra whose telephone number is (571)272-7232. The examiner can normally be reached on Monday through Friday, 8:00 a.m. to 5:00 p.m. EST.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Max F. Hindenburg can be reached on (571)272-4726. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JH

JH



MAX F. HINDENBURG

SENIOR PATENT EXAMINER
ELECTRONIC BUSINESS CENTER